

Abstract of the Disclosure

An apparatus and method of detecting a frame synchronization signal, capable of reducing errors in data demodulation in an optical system, are provided. The frame synchronization signal detection apparatus includes a synchronization signal detector, a main frame synchronization signal generator, a sub frame synchronization signal generator, and an output unit. The synchronization signal detector detects and outputs a synchronization signal from a digital data signal. The main frame synchronization signal generator detects and outputs a first valid synchronization signal from the synchronization signal, as an internal frame synchronization signal. The main frame synchronization signal generator generates and outputs a first insertion synchronization signal, as the internal frame synchronization signal, if the first valid synchronization signal is not detected in a predetermined first time period. The sub frame synchronization signal generator detects and outputs a second valid synchronization signal from a synchronization signal, while the main frame synchronization signal generator generates the first insertion synchronization signal. The output unit outputs a frame synchronization signal, in response to the interval frame synchronization signal and the second valid synchronization signal. The main frame synchronization signal generator stops generating the first insertion synchronization signal, in response to the second valid synchronization signal, and detects and outputs a first valid synchronization signal as an internal frame synchronization signal. The frame synchronization signal detection apparatus and method can reduce errors in data demodulation during the insertion synchronization signal generation interval.

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